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PATENT
4504-1068

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Robert Farrer GILMOUR

Conf. 6887

Application No. 10/716,534

Group 3743

Filed November 20, 2003

ANKLE STRAP

CLAIM TO PRIORITY

Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

January 21, 2005

Sir:

Applicant(s) herewith claim(s) the benefit of the priority filing date of the following application(s) for the above-entitled U.S. application under the provisions of 35 U.S.C. § 119 and 37 C.F.R. § 1.55:

<u>Country</u>	<u>Application No.</u>	<u>Filed</u>
NEW ZEALAND	522707	November 20, 2002

Certified copy(ies) of the above-noted application(s) is(are) attached hereto.

Respectfully submitted,

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Attachment(s): 1 Certified Copy(ies)

CERTIFICATE

This certificate is issued in support of an application for Patent registration in a country outside New Zealand pursuant to the Patents Act 1953 and the Regulations thereunder.

I hereby certify that annexed is a true copy of the Provisional Specification as filed on 20 November 2002 with an application for Letters Patent number 522707 made by Bodyworks Inc.

Dated 14 December 2004



Neville Harris
Commissioner of Patents, Trade Marks and Designs



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**CERTIFIED COPY OF
PRIORITY DOCUMENT**

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Dated 14 December 2004

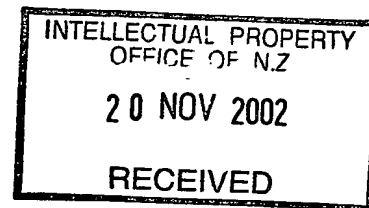


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Commissioner of Patents, Trade Marks and Designs



**CERTIFIED COPY OF
PRIORITY DOCUMENT**

522707

Patents Form # 4**NEW ZEALAND****Patents Act 1953****PROVISIONAL SPECIFICATION****Title: ANKLE STRAP**

We, **Bodyworks Inc.**,

Nationality: *A State of California, United States of America company*

Address: *981 Park Center Drive, Vista, CA 92083, United States of America,*

do hereby declare this invention to be described in the following statement :

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FOOT AND ANKLE SUPPORT**FIELD OF INVENTION**

This invention relates to a foot and ankle support particularly for human use.

BACKGROUND OF INVENTION

5 Foot and ankle supports of this type are typically used to reduce the likelihood of injury to the foot and/or ankle or subtalar joint in conditions of high physical stress thereto. In addition or alternatively such supports are used to limit the local deformation of a foot or ankle which has already been injured, as a means of assisting the healing process.

10 It has been found that many of the known supports fail to achieve satisfactory results or impose unwanted constraints on desired movements of the foot or ankle. For example, if support straps are fastened to the support behind the ankle/subtalar joint axis, plantar flexion of the foot causes the straps to loose tension and therefore control of the foot and/or ankle or subtalar joints is reduced.

15 Our United States Patent 5899872 describes and claims a construction which uses isometric straps in a substantially figure 8 arrangement about the boot part of a foot and ankle support. While this construction gives good results, there remains a need for a construction which has more flexibility in use, and which will resist movements that initiate inversion injury of the rear foot whilst walking.

OBJECT

20 It is therefore an object of the present invention to provide a foot and ankle support which will go at least some way towards meeting the foregoing requirements in a simple yet effective manner or at least to provide the public with a useful choice.

STATEMENT OF INVENTION

25 Accordingly the invention may broadly be said to consist in a foot and ankle support comprising a boot element having an upper part configured to contain a lower part of a user's leg and the user's ankle and a lower part configured to contain the user's foot, the boot element providing a front opening and a pair of side flaps defining the opening, primary

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fastening means operable to draw the side flaps together and each side flap having a least one aperture positioned to form a pair of apertures, and at least one first strap able to engage with one side flap and be passed through the or an aperture in the other side flap and returned to the first side flap for engagement therewith, and secondary fastening means to further secure the boot element.

Preferably the side flaps have inner and outer surfaces, the first strap and the inner and outer surfaces having in part fastening means thereon to enable the strap to be secured to the inner surface of one side flap, passed through the aperture in that side flap, looped through the aperture in the other side flap and be secured on the outer surface of the first mentioned side flap.

Preferably a pair of apertures are provided on each side flap, one aperture being at or adjacent the upper part of the boot element and one aperture being at or adjacent the lower part of the boot element.

Preferably the inner and outer surfaces of each side flap have the pile thereon of a pile and hook fastening device, the hooks being provided on the strap.

Preferably secondary fastening means are provided comprising two straps having a first end and a second free end, the first ends being affixed to the upper part of the boot element and each of said straps being affixed to extend forwardly and down having a length to pass across the top of the foot and under the metatarsal region of the foot and diagonally back up to be fastened to the boot element, part fastening means being provided on the boot element and the straps.

This invention may also broadly be said to consist in the parts, elements and features referred to or indicated in the specification of the application, individually or collectively, and any or all combinations of any two or more of the parts, elements or features, and where specific integers are mentioned herein which have known equivalents such equivalents are deemed to be incorporated herein as if individually set forth.

DRAWINGS DESCRIPTIONS

One preferred form of the invention will now be described with reference to the accompanying drawings in which:

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Figure 1 is a diagrammatic side elevation of a foot and ankle support accordingly to one preferred form of the invention,

Figure 2 is a diagrammatic front elevation of part of a foot and ankle support as shown in Figure 1, and

- 5 **Figure 3** is a diagrammatic perspective view of a foot and ankle support according to a preferred form of the invention in use.

DETAILED DESCRIPTION

Referring to the drawings, a foot and ankle support is provided which comprises a boot 1 having an upper part 2 and a lower part 3. The upper part 2 is designed to contain the lower
10 part 4 of a user's leg in use and the lower part 3 is constructed to contain the foot 5 of a user in use. In particular, the upper part 2 contains a user's ankle.

The boot 1 provides a central opening 10 between a pair of side flaps 11 and 12. The side flaps may cover the edges of a tongue 13 which is able to be placed behind the side flaps 11 and 12 and which may be connected to the side flaps, for example, by stitching at points 14
15 and 15. The tongue 13 is desirably of a flexible material.

Primary fastening means are provided operable to draw the side flaps 11 and 12 together. To this end, each side flap includes at least one opening and in the preferred form each side flap provides a pair of openings. Openings 20 and 21 therefore may be provided on side flap 11 and openings 22 and 23 may be provided on the side flap 12. The primary fastening means
20 also preferably include a pair of straps 30 and 31 which contain part fastening means over at least some of their faces. The straps 30 and 31 are able to be fastened to both the inner and outer surfaces of the side flaps 11 and 12. This may be achieved by providing the inner and outer surfaces of the side flaps 11 and 12 with, for example, the pile of a hook and pile type
25 connector. Thus the side flaps may be provided with the pile over the whole of their extent on the inner and outer surfaces or the pile may be provided just in the areas which will need to be connected to the straps. The straps therefore would then contain the hook parts of the hook and pile connectors at least in the areas 36 and 37 which are shown pocketed in Figures 1 and 2. The intended use therefore is that a strap 30 or 31 would be connected to the inner surface of one side flap, for example, the inner surface of side flap 11 passed through the

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aperture 20, and looped through the aperture 22, for example, from the inner surface of side flap 12 to the outer surface. The strap 30 or 31 is then returned so that at least the area 37 of the strap may be secured to the outer surface of the side flap from which the strap originally extended.

- 5 In Figure 2 the straps 30 and 31 are shown one extending from left to right then right to left and the other extending from right to left then left to right. This is for illustrative purposes only and in general both straps would loop in the same direction.

- 10 Secondary fastening means are provided and these may comprise firstly, a pair of straps 40 and 41 which are affixed to the outer surface of the boot, for example, by co-operating hook and pile fasteners between the boot and the straps 40 and 41 and are desirably positioned at a point at or adjacent the ankle when a foot is contained within the boot element 1. The connectors also desirably at about the mid-point vertically of the ankle but at least in general should not be behind the ankle. The straps 40 and 41 are provided at each end with part hook and pile fastenings shown pecked at 42 and 43. The straps 40 and 41 in use extend
15 firstly downwardly across the top of the foot part. The straps are then looped under the metatarsal part of the foot and extend upwardly to be fixed, for example, by the fastening part 43 towards the upper parts of the part 2 of the foot and ankle support.

- 20 A further fastening element may be provided, for example, in the form of a pair of straps 50 and 51 which contain thereon parts of a hook and pile fastener 52 and 53. The straps 51 and 52 may be passed around the leg as shown in Figure 3 and fixed by co-operation of the pads 52 and 53 in the area 54 for example.

- 25 Thus in use the user's leg and foot are placed into the boot and ankle support 1. The straps 30 and 31 are engaged at one end with the inner surface of the side flaps 11 and 12, passed through an aperture such as aperture 20, looped through the aperture such as aperture 22, tightened and secured back onto the outer surface of the side flaps such as side flap 11. Generally the straps 30 and 31 would loop in the same direction.

The straps 40 and 41 may then be passed around the user's foot and secured as above described and the whole construction can then be secured by use of the straps 50 and 51 which are secured as shown at 55.

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Thus it can be seen that foot and ankle support is provided which has the advantage that the support is simple, effective and quick to apply and also to remove. It is a particular advantage of the invention that the straps attaching the side flaps can pull in either direction. This has the advantage that the straps can be readily reversed if required should it be necessary to prevent the foot from twisting in the opposite direction. The straps can also be used to pull the foot in pronation and also there is resistant of movement which initial inversion injury of the hind or rear foot. Furthermore, if the foot is over pronated at the forefoot then the straps can be arranged to supinate the foot.

There is also a commercial advantage in that the straps allow a boot and ankle support to fit both left and right feet and in case can alter the relationship between leg and foot. Accordingly, the number of stock units required to hold is substantially reduced.

Throughout the description and claims of this specification the word "comprise" and variations of that word, such as "comprises" and "comprising", are not intended to exclude other additives, components, integers or steps.

PIPERS**Attorneys for
Bodyworks Inc.**